REMARKS

Claim Rejection under Section 112

The rejection of claim 1 under Section 112, second paragraph is mooted by the elimination of the word "type" from the claim. Reconsideration and withdrawal of the rejection is requested.

Claim Rejection Under Section 102

Claims 1 and 2 have been amended to more particularly point out and distinctly claim that which the applicants believe to be their invention. The claims now make it more clear that applicants' invention is directed to a packaging material that prevents the transmission of UV light by resort to substantially reduced quantities of light-absorbing material such as carbon black. In certain embodiments, the packaging material further comprises a layer having a substantially reduced quantity of white pigment while nonetheless producing a package product presenting a white appearance. It is respectfully submitted that the amended claims are free of the prior art, and are patentable over the cited reference to Akao et al.

The Akao reference is directed to packaging material for photographic photosensitive material and light-shielding bag. The various objectives appear to be the production of a packaging material that can be used to form a moisture-proof, light shielding bag of plastic material having certain physical characteristics, e.g., avoidance of pin holes, a requisite minimum Young's modulus, etc. (e.g., Col. 2) The reference is directed to, among other things, a packaging product having the ability to protect photographic film from incident light as well as X-rays (Col. 15 ff.). The reference does

not appear to be directed to a package product that prevents the transmission of UV light; nor is it directed to a product that can achieve an overall white appearance despite minimal use of a white pigment such as titanium dioxide.

The instant claims are directed to a packaging material for foodstuffs. The claimed packaging material can be both produced and recycled with great economy while presenting a valuable and much desired appearance, i.e., white. The packaging material and packages of the instant claims can shield the intended foodstuffs, particularly milk, from harmful ultra-violet radiation, and thereby preserve the product for longer shelf-life. The claimed materials achieve those objectives despite the use of surprisingly small amounts of a light-absorbing material such as carbon black. This is accomplished by adding light-reflecting material to the same layer as that containing the light-absorbing material, and distributing both light-absorbing and light-reflecting material uniformly throughout that layer.

The claimed material is useful for, among other things, the packaging of UHT milk, which, when properly packaged, can be stored at room temperature for several weeks without spoiling. The shelf-life of UHT milk is diminished by light and by UV radiation. Thus, when producing plastic packaging material for UHT milk, it is desirable to create a product that is capable of preventing the transmission of light and UV radiation, is economical to produce and recyclable, and satisfies the other structural requirements for bottle-type packaging materials.

The claimed packaging material of the present invention meets those criteria. The claimed material prevents the transmission of light and UV radiation. (e.g., Specification at p. 4, lines 28-29; p. 6, lines 22-23). Further, the claimed material prevents the

transmission of light and UV radiation with a substantially reduced quantity of light-absorbing material, and thereby effects minimal darkening by the light absorbing material. This facilitates further economies by reducing the requisite amount of white pigment to give the packaging material the desired overall white appearance. The white appearance is particularly valuable for certain foodstuffs (e.g., milk) for purposes of producing an appealing package and gaining customer acceptance.

The claimed material has the further advantage of improved economies in recycling the claimed packaging material as compared to prior art products. The prior art packaging materials used for the same purpose employ substantially more carbon black. The resulting prior art product cannot be directly recycled because of the extreme blackening. Instead, the recycled product must be whitened as by the addition of white pigment, thereby requiring additional material and processing steps, and rendering the recycling process unprofitable. (Specification at p. 2) By using substantially reduced amounts of light-absorbing material as compared to the prior art, the packaging materials of the instant claims can be directly recycled, and do not require such additional processing or additives. Thus, the materials of the instant claims provide packaging materials that both prevent the transmission of light and can be profitably recycled.

The claimed packaging material also has the advantage of being suitable for production by conventional processing (e.g., extrusion) and requires no binders (adhesives) or other agents to permanently unite the various layers of the packaging material. Thus, further enhancing the economies of production and recycling. (Specification, p. 5, lines 8-12)

Claim Rejections Under Section 103

Each of the remaining rejections is premised upon the viability of the rejection of claims 1 and 2 as anticipated by Akao under 35 U.S.C. Section 102. In view of the foregoing remarks and amendments to the claims, it is respectfully submitted that the premise no longer prevails. Accordingly, Akao cannot be relied upon for the same purposes in the remaining rejections, and thus, the remaining rejections are likewise overcome. Reconsideration and withdrawal of all outstanding rejections is respectfully requested.

Specifically, Claim 3 stands rejected under Section 103 as obvious over Akao and Rosen. (Claim 4 is canceled) Rosen does not provide the teaching or suggestion that is lacking from the Akao teaching to render obvious the claims as amended. The Rosen reference fails to teach or suggest the fabrication of a packaging product of a high density polyethylene or a copolymer of ethylene and propylene that is capable of preventing the transmission of UV radiation by resort to the quantities of light-absorbing and light-reflecting materials of the claim. Applicants thus request reconsideration and withdrawal of the rejection.

Likewise, the rejection of claims 5-7 as obvious in view of Akao and applicants' alleged admission of the content of the prior art cannot now be maintained. Applicant's characterizations of the prior art do not include an acknowledgment that the packaging materials of the instant claims can prevent the transmission of UV radiation, nor does it include an acknowledgment that multilayer materials can be fabricated as claimed to

achieve an effective UV barrier and a white appearance with the quantities of materials claimed.

For the same reasons, the rejection of claim 8 should be withdrawn. As discussed above, the subject matter of claim 1, as amended, is not anticipated by Akao. Likewise, the subject matter of claim 1 is not discussed or suggested in Johansson (WO 97/13637), either alone or in combination with Akao. Thus, it cannot be argued that the cited prior art suggests that the production of a package made of the material of claim 1 could be successfully performed by the use of combined extrusion and blow molding. Applicants respectfully request reconsideration and withdrawal of this rejection.

The newly added claims are likewise distinguishable over the art of record. The added claims recite more particularized embodiments of the invention as dependent on otherwise allowable claims (claims 12 and 13 dependent on claim 1). Thus, those dependent claims are likewise allowable.

Other of the added claims simply recite more particularized embodiments of the invention (i.e., claims 9-11 and 14-16). Those claims are directed to various embodiments of the invention wherein, among other things, a light-shielding plastic layer comprises between about 0.04% to about 1% light-absorbing material and about 3% to about 80% of a light reflecting material, and another layer comprises less than about 5% white pigment (specification p. 7, lines 15-19) to produce a product that both prevents the transmission of UV radiation while presenting a white appearance. This combination of properties is neither taught nor suggested by the cited prior art, either alone or in combination. Accordingly, the added claims are likewise allowable.

In view of the foregoing amendments and remarks, Applicants submit that the pending claims are in condition for allowance. If, however, the Examiner perceives any impediments to the issuance of a formal notification of allowance, the Examiner is encouraged to call Applicants' representative at the number provided below. It is respectfully submitted that such informal communication will expedite examination and disposition of the present case.

Respectfully submitted,

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Marked-up Claims 1-3, 5, 6, 8

1. (Twice amended) A packaging material [of single or multi-layer type] comprising at least one layer (11) of plastic [which, for light barrier elevating purposes,] that prevents the transmission of ultra-violet light, which plastic comprises particles (11c) of carbon black[,] in an amount ranging from about 0.04 to about 1% of the total weight of the plastic layer (11) [wherein the layer (11) containing carbon black also includes]; and light-reflecting mineral particles (11b) [substantially uniformly distributed in the compound (11a) of the layer] in [a quantity between approximately] an amount ranging from about 3 [and] to about 80% of the total weight of the plastic layer (11), and wherein said carbon black and said light-reflecting mineral particles are uniformly distributed throughout the plastic layer.

2. (Twice amended) The packaging material [as claimed in] of Claim 1, [characterized in that the compound (11a) in the mineral-filled layer (11) containing carbon black comprises] wherein the plastic is a polyolefin.

3. (Twice amended) The packaging material [as claimed in] of Claim 1, [characterized in that the compound (11a) in the mineral-filled layer (11) containing carbon black] wherein the plastic [consists of] is a high density polyethylene or a copolymer of ethylene and propylene with a melt index between 0.5 and 5 according to American Society for Testing and Materials (2.16 kg; 230°C).

5. (Twice amended) The packaging material [as claimed in] of Claim 1, [characterized in that the mineral-filled layer (11) containing carbon black] wherein the

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plastic layer preventing the transmission of ultra-violet light is surrounded by outer layers (12 and 13) of plastic on both sides of the plastic layer (11), said outer layers (12 and 13) being permanently united to the layer (11) without intermediate binder or adhesive.

6. (Twice amended) The packaging material [as claimed in] of Claim 5, [characterized in that] wherein the plastic of the two outer layers (12 and 13) [consist of] is the same plastic as the plastic of the layer that prevents the transmission of ultra-violet light [in the intermediate layer] (11).

8. (Twice amended) A package[, preferably a bottle,] for light-sensitive food products, characterized in that it is produced by a combined extrusion and blow moulding operation of a packaging material as claimed in Claim 1.